

# Technique in Croatia

**Zagreb, 26 November 2004**

The Department for Technical Culture of Matrix Croatica organised on 26 November 2004 in Zagreb the conference titled *Technique in Croatia*. The Croatian Academy of Engineering, the Croatian Community of Technical Culture and the Technical Museum were co-organisers.

On the occasion of the gathering, the professor emeritus Vladimir Muljević, the member of the organizing committee and at the same time one of the oldest members of Matrix Croatica and the honorary member of the Croatian Academy of Engineering, gave an interview for the magazine *Vijenac* (No. 280, of 25 November 2004, page 38) titled *Technical Culture Has Got a Future* in which he said among other things: "The existence and the activity of the Croatian Community for Technical Culture with its ten thousand members, the activity of the Technical Museum in Zagreb visited by more than a dozen thousand of people per year, mostly younger people and pupils, proves the fact that technique is a part of modern culture in Croatia, as well as in the world. The Croatian Academy of Sciences and Arts is paying appropriate attention to and caring for technical sciences, and the Croatian Academy of Engineering does that to a great extent as well. All technical faculties in Croatia have also got a significant role in developing and spreading the technical knowledge. Hence, I think that the future of technical culture, as an integral part of modern culture, is guaranteed in Croatia."

It is very important to point out that almost all reports were printed in the proceedings *Tehnika u Hrvatskoj* (*Technique in Croatia*), edited by D. Malvić, and published by Matrix Croatica two weeks before the gathering took place. The Proceedings (ISBN 953-150-701-5, UDK 62(497.5)(082) has got 158 pages, in soft cover with the size 24×17 cm. It can be bought at the price of 120 kn in the Library of Matrix Croatica, Street Matice hrvatske 2, 10000 Zagreb.

In the Introduction of the Proceedings, Z. Jakobović writes: "The organiser wishes that the phenomena of technique and its application in Croatia should be discussed at the gathering from the broadest point of view: professional, cultural, economic, educational, historical, sociological, interdisciplinary and other. The invitations to the gathering have therefore been sent to the largest possible number of participants. According to the reports received, it is to be seen that the effort to highlight the horizons of technique has been fulfilled to a very good extent. The reports cover the topics starting with the history and the first appearance of technique in Croatia

and over to the most recent situation, including the education of young people and professional issues, as well as technical and lexicographic topics."

Further on, Z. Jakobović expects in the Introduction of the Proceedings "that the discussion at the gathering will be extended and deepen the topics reported,... that this gathering should be the inspiration and a lesson for future organisers of similar gatherings and conferences that will present the phenomenon of technique in our time not only as professional, but also in a very broad sense as social phenomenon."

The gathering was opened in the Palace of Matrix Croatica. The welcoming address was made by the vice-president of Matrix Croatica Stjepan Sučić, the president of the Croatian Academy of Engineering, Prof. Dr. Zlatko Kniewald, the president of the Croatian Community for Technical Culture, MSc. Zvonimir Jakobović.

Immediately after the opening ceremony, there were three reports presented with the topic of the history of technique. Prof. Emeritus V. Muljević spoke about Bogoslav Šulek, polyhistorian and technician, D. Malvić about the technique in the activity of Matrix Croatica, and MSc. Z. Jakobović about Oton Kučera, the prominent person of the radio in Croatia.

The afternoon part of the gathering took place in the Technical Museum, and it started with opening the exhibition *Snimiti nevidljivo* (*Record the Invisible*), by the author M. Smokvina, organised by the Technical Museum in Zagreb and the State Archives in Rijeka.

It was followed by the reports divided into three groups: Technique and Culture, Technique in School System, and Technique in Application.

In the group of reports having the mutual title *Technique and Culture*, D. Fulanović, BSc. spoke about the role of the Technical Museum in keeping and presenting the technical culture. MSc. T. Krčmar spoke about Professor Božo Težak and his activity connected with the Technical Museum. Prof. Dr. M. Lapaine explained in his report the meaning of the word *tehnika* (technique), and Prof. Dr. I. Čatić made a lecture on the future of technics.

In the group of reports titled *Technique in School System* there were four reports. J. B. Malinar presented the overview of the development in teaching technical culture in primary schools in Croatia during the last half a century. Prof. Dr. A. Markotić reported about the technique and young people. MSc. Z. Jecić presented his research

# Tehnika u Hrvatskoj

**Zagreb, 26. studenoga 2004.**

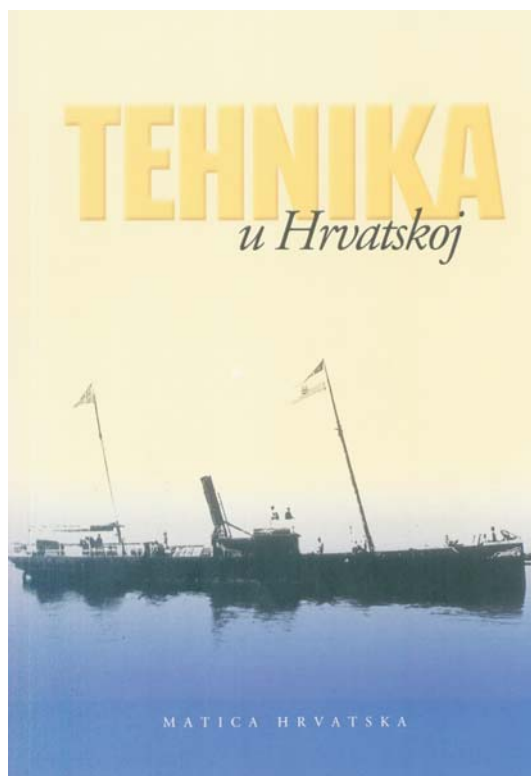
U organizaciji Odjela za tehničku kulturu Matice hrvatske, u Zagrebu je 26. studenoga 2004. održan stručni skup *Tehnika u Hrvatskoj*. Suorganizatori skupa bili su Akademija tehničkih znanosti Hrvatske, Hrvatska zajednica tehničke kulture i Tehnički muzej.

U povodu održavanja skupa prof. emeritus Vladimir Muljević, član organizacijskog odbora i ujedno jedan od najstarijih članova Matice hrvatske te počasni član Akademije tehničkih znanosti Hrvatske, dao je za časopis *Vijenac* (br. 280, od 25. studenoga 2004., str. 38) intervju s naslovom *Tehnička kultura ima budućnost*, u kojem je među ostalim rekao: "Postojanje i djelovanje Hrvatske zajednice tehničke kulture s desetak tisuća članova, djelovanje Tehničkog muzeja u Zagrebu, koji godišnje posjeti više desetaka tisuća, uglavnom mladih i učenika, pokazuje da je tehnika dio suvremene kulture u Hrvatskoj, kao i u svijetu. Hrvatska akademija znanosti i umjetnosti posvećuje tehničkim znanostima odgovarajuću pažnju i brigu, a to u velikoj mjeri čini i Hrvatska akademija tehničkih znanosti. Golemu ulogu u razvijanju i širenju tehničkih znanja imaju svi tehnički fakulteti u Hrvatskoj. Stoga mislim da je budućnost tehničke kulture, kao sastavnoga dijela suvremene kulture, u Hrvatskoj zajamčena."

Važno je istaknuti da su gotovo svi referati tiskani u zborniku *Tehnika u Hrvatskoj*, što ga je uredio D. Malvić, a objavila Matica hrvatska dva tjedna prije održavanja skupa. Zbornik (ISBN 953-150-701-5, UDK 62(497.5) (082)) ima 158 stranica, u mekom je uvezu dimenzija 24×17 cm. Može se nabaviti po cijeni od 120 kn u Knjižnici Matice hrvatske, Ulica Matice hrvatske 2, 10000 Zagreb.

U Uvodu zbornika Z. Jakobović piše: "Želja je organizatora da se na skupu raspravlja o pojavnostima tehnike i njezine primjene u Hrvatskoj s najširih gledišta: stručnoga, kulturnoga, gospodarskoga, odgojnoga, povijesnoga, sociološkoga, interdisciplinarnoga i drugih. Stoga su pozivi za skup poslani najširem krugu mogućih sudionika. Prema prispjelim referatima vidi se kako je to nastojanje za širinom osvjetljavanja tehnike dobrim dijelom ispunjeno. Referati pokrivaju teme od povijesti i pojave tehnike u Hrvatskoj do najnovijega stanja, od obrazovanja mladih do strukovnih pitanja, od tehničkih do leksikografskih tema."

Nadalje Z. Jakobović u Uvodu zbornika očekuje "da će rasprava na skupu proširiti i produbiti postavljene teme, ...da ovaj skup bude poticaj i pouka za buduće organiziranje sličnih skupova i savjetovanja, koji će u ovo naše vrijeme tehnike prikazati pojavu tehnike ne samo kao stručnu, nego u najširem smislu i društvenu pojavu".



Skup je otvoren u Palači Matice hrvatske. Pozdravne riječi uputili su potpredsjednik Matice hrvatske Stjepan Sučić, predsjednik Akademije tehničkih znanosti Hrvatske prof. dr. sc. Zlatko Kniewald, predsjednik Hrvatske zajednice tehničke kulture prof. dr. sc. Ante Markotić i voditelj Odjela za tehničku kulturu Matice hrvatske mr. sc. Zvonimir Jakobović.

Neposredno nakon otvaranja skupa izložena su tri referata na temu povijest tehnike. Prof. emeritus V. Muljević govorio je o Bogoslavu Šuleku, polihistoru i tehničaru, D. Malvić o tehnici u djelovanju Matice hrvatske, a mr. sc. Z. Jakobović o Otonu Kučeri, prvaku radija u Hrvatskoj.

Poslijepodnevni dio skupa održavao se u Tehničkom muzeju, a započeo je otvaranjem izložbe *Snimiti nevidljivo*, autora M. Smokvine, u organizaciji Tehničkog muzeja u Zagrebu i Državnog arhiva u Rijeci.

Slijedila su izlaganja, podijeljena u tri skupine: Tehnika i kultura, Tehnika u školstvu i nakladništvu i Tehnika u primjeni.

U skupini referata pod zajedničkim naslovom *Tehnika i kultura*, D. Fulanović, dipl. ing., govorio je o ulozi



about the presence of technique in the publications of Lexicographical Institute Miroslav Krlježa, and MSc. L. Majetić spoke about this attitude towards the school

system as the generator of non-technological sterile opinion. Dr. R. Marinković was supposed to hold the lecture on the technique in high quality education, but could not take part at the gathering for health reasons.

In the last group of reports, *Technique in Application*, there were also four presentations having a common feature in presenting the development of single areas. Prof. Dr. M. Hraste presented the development of the chemical engineering, M. Smokvina, BSc., the torpedo factory in Rijeka, Prof. Dr. Z. Benčić mercury period of effective electronics in Croatia (1949-1968) and Prof. Dr. S. Frangeš the development of technique in the production of topographic maps in Croatia.

The whole conference, although organised on a very high level, with very interesting topics and presentations, gathered unfortunately only about 50 participants. It does not predict better days for the future of technique in Croatia, at least not for some of its segments.

*Miljenko Lapaine, Stanislav Frangeš*

## *Advanced GIS Modeling*

**Zagreb, 31 January - 12 February 2005**

A ten-day intense GIS course *Advanced GIS Modeling*, organized by the *Institute for Melioration of the Faculty of Agriculture of the University of Zagreb* and *AGIS Centre of the Faculty of Agriculture, University in Osijek*, was held from 31<sup>st</sup> January till 12<sup>th</sup> February 2005 at the Faculty of Agriculture in Zagreb

The coordinator and chief organizer of the course was Assist. Prof. Dr. Tomislav Hengl, who tried to share his experience from the *International Institute for Geo-Information Science and Earth Observation (ITC)* in the Netherlands, where he completed his graduate studies, got his PhD and earned the title *GIS Specialist*.

Unlike similar courses organized so far, this one was intended for young researchers who lack basic knowledge of advanced GIS modeling, mainly for the teaching assistants and graduate students, but also for everyone interested in GIS tools use in natural resource management and research.

Besides using GIS packages, the course dealt with subjects such as: satellite imagery processing, process modeling in GIS, orthophoto design, integration of GPS and GIS, relief modeling. The topics were chosen by the participants of the course through a survey.

Here is a typical workday at the course:

09:00-10:00 – Introductory theoretical lecture  
10:00-10:30 – Break  
10:30-12:00 – Lecture, part two  
13:30-14:30 – Demonstration - Case Study

14:30-16:00 – Individual work under the supervision of the coordinator

16:00-17:00 – Additional questions and discussion.

The major part of the exercises was done in ILWIS. ILWIS is the abbreviation for *Integrated Land and Water Information System*, and it is an integral GIS package, designed specifically for the needs of research projects and education.

ILWIS was developed by the ITC team, and more about it can be found at their official web-site: <http://www.itc.nl/ilwis/>

The programme has become shareware in 2004, and it is available at the symbolic price of 100 €, so considering the possibilities the package offers and its reasonable price, it is highly recommended for use in class and for various GIS-analyses.

Besides ILWIS, the participants were acquainted with other GIS packages (ArcGIS, Geomatica, Idrisi, GrassGIS, Erdas Imagine) and specialist packages (ArcView, Gstat, VESPER and SaGa).

On Friday afternoon the workshop was organized so that the participants could present the problems they came across when processing data in GIS. Participants could offer their suggestions and solutions, and share their previous experience with similar problems. The aim of the workshop was to practice communication about GIS-related problems and to learn how to prepare project



Tehničkog muzeja u očuvanju i predstavljanju tehničke kulture. Mr. sc. T. Krčmar govorio je o prof. Boži Težaku i njegovoj djelatnosti vezanoj uz Tehnički muzej. Prof. dr. sc. M. Lapaine u svom je izlaganju objasnio značenja riječi tehnika, a prof. dr. sc. I. Čatić održao je predavanje o budućnosti tehnike.

U skupini referata pod zajedničkim naslovom *Tehnika u školstvu i nakladništvu* bila su četiri izlaganja. J. B. Malinar dao je pregled razvoja nastave tehničke kulture u osnovnim školama u Hrvatskoj tijekom proteklih pola stoljeća. Prof. dr. sc. A. Markotić izlagao je o tehnici i mladima. Mr. sc. Z. Jecić prikazao je svoje istraživanje o zastupljenosti tehnike u izdanjima Leksikografskog zavoda Miroslav Krleža, a mr. sc. L. Majetić iznio je svoje stavove o školskom sustavu kao generatoru netehnološkoga jalova mišljenja. Dr. sc. R. Marinković trebala je održati predavanje o ulozi tehnike u kvalitetnom

obrazovanju, no nije mogla sudjelovati na skupu zbog zdravstvenih problema.

U posljednjoj skupini referata, *Tehnika u primjeni*, bila su također četiri izlaganja za koja je zajedničko to što su dala prikaze razvoja pojedinih područja. Tako je prof. dr. sc. M. Hraste prikazao razvoj kemijskog inženjerstva, M. Smokvina, dipl. oec., riječku tvornicu torpeda, prof. dr. sc. Z. Benčić živino doba učinske elektronike u Hrvatskoj (1949-1968), a prof. dr. sc. S. Frangeš razvoj tehnike izrade topografskih karata u Hrvatskoj.

Cjelokupni skup, iako organiziran na visokoj razini, sa zanimljivim temama i prezentacijama referata, okupio je na žalost tek 50-ak sudionika. To za budućnost tehnike u Hrvatskoj, barem nekih njezinih segmenata, ne pretskazuje bolje dane.

Miljenko Lapaine, Stanislav Frangeš

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## Napredno GIS-modeliranje

Zagreb, 31. 1. - 12. 2. 2005.

U organizaciji Zavoda za melioracije Agronomskog fakulteta Sveučilišta u Zagrebu i Centra AGIS Poljoprivrednog fakulteta Sveučilišta u Osijeku, od 31. siječnja do 12. veljače 2005. godine, na Agronomskom fakultetu u Zagrebu, održan je desetodnevni intenzivni tečaj *Napredno GIS-modeliranje*.

Voditelj i glavni organizator tečaja bio je doc. dr. sc. Tomislav Hengl, koji nam je pokušao prenijeti svoja iskustva iz ITC-a (*International Institute for Geo-Information Science and Earth Observation*) u Nizozemskoj gdje je završio poslijediplomski studij, doktorirao, te stekao zvanje *GIS-specijalist*.

Za razliku od sličnih, do sada organiziranih tečajeva, ovaj je bio namijenjen mladim istraživačima kojima nedostaju temeljna znanja za napredno GIS-modeliranje. Dakle, prvenstveno asistentima i polaznicima poslijediplomskog studija, ali i svima koji su zainteresirani za primjenu GIS-alata u gospodarenju prirodnim resursima i istraživanjima.

Osim rada u GIS-paketima, na tečaju su obrađivane i teme poput ovih: obrada satelitskih snimaka, modeliranje procesa u GIS-u, izrada ortofota, integracija GPS-a i GIS-a, modeliranje reljefa. Odabir tema, obavili su polaznici tečaja popunjavajući anketu.



*The participants of the course "Advanced GIS-modelling"*  
Polaznici tečaja "Napredno GIS-modeliranje"

Tipičan radni dan tečaja izgledao je ovako:

09:00-10:00 – uvodno teorijsko predavanje,  
10:00-10:30 – pauza,  
10:30-12:00 – drugi dio predavanja,  
13:30-14:30 – demonstracija – studij slučaja (case study)  
14:30-16:00 – samostalni rad uz obilazak voditelja  
16:00-17:00 – dodatna pitanja i diskusija.

Najveći dio vježbi izvodio se u ILWIS-u. *ILWIS* je skraćenica za "Integrated Land and Water Information